Dairy Situation

Economic Research Service

U.S. Department of Agriculture

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September 1977

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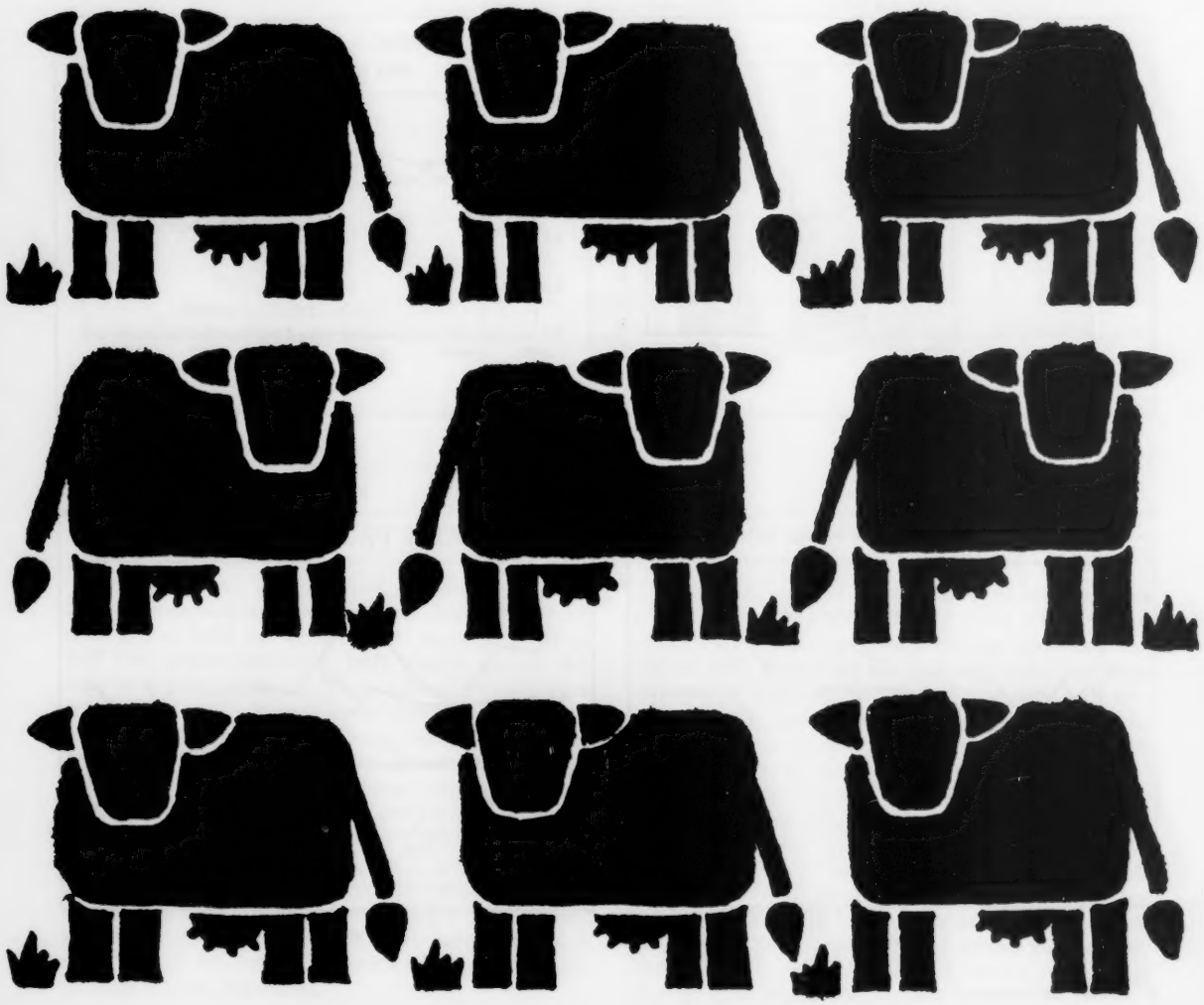


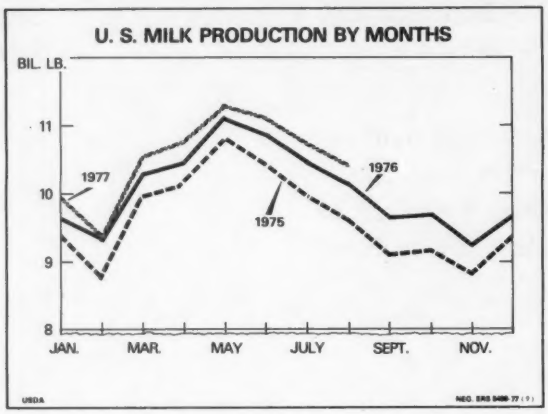
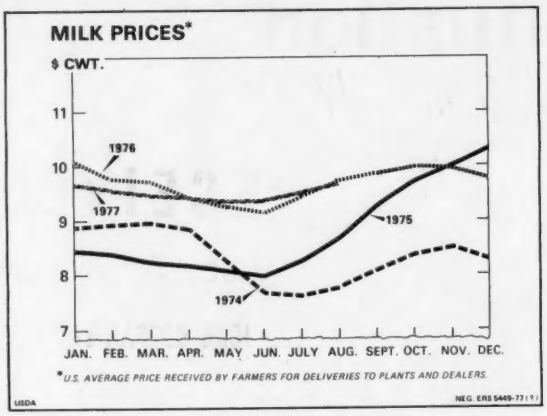


Figure 1



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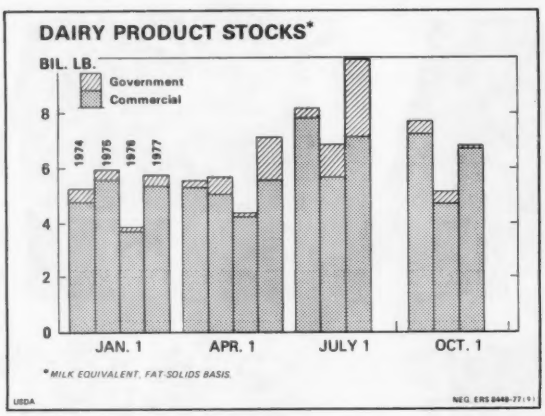

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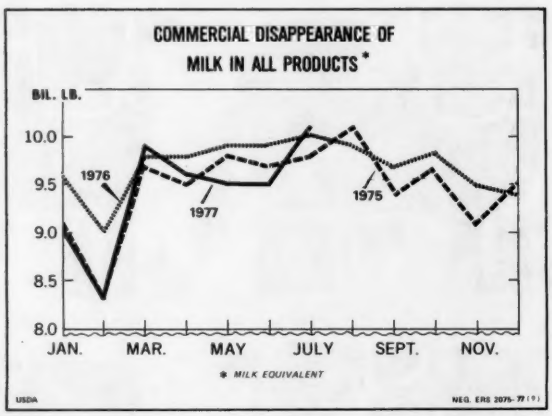

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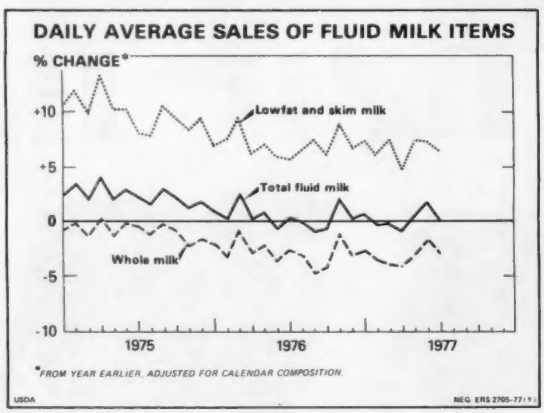

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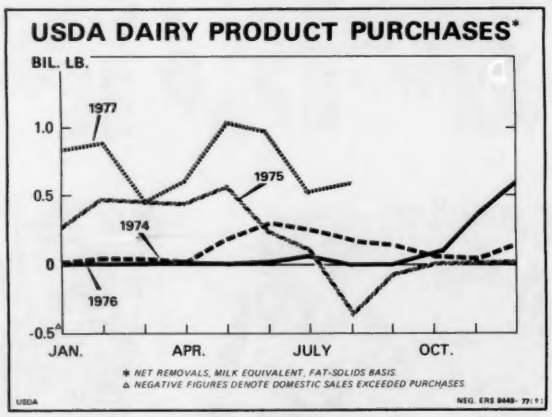

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SUMMARY

Dairy markets this summer remained in much the same condition as earlier this year. With farm milk prices held up by the price support program and feed prices declining, milk output stayed well above a year earlier. This added production resulted in heavy government purchases under the price support program since commercial stocks of dairy products were already large and commercial use was sluggish. With donation outlets quite limited, USDA dairy stocks have grown substantially.

Output will continue to expand through the first half of 1978. This probably will keep farm milk prices and wholesale dairy product prices from any significant rises above support levels. Government purchases could remain relatively large although an expected recovery in commercial use may help to limit USDA purchases.

Output per cow probably will post strong gains in coming months as milk-feed price relationships likely will favor increased concentrate feeding. Higher milk prices, ample feed supplies, and large numbers of replacement heifers probably will continue to limit declines in milk cow numbers. For all of 1977, milk output is expected to total about 123 billion pounds, up about 2½ percent from 1976.

Manufacturing grade milk prices in August were still 20 cents per 100 pounds below the support level, when adjusted for fat content. Even with the seasonal easing of supplies, marketing conditions were still affected by very heavy supplies. Seasonal forces probably will bring farm milk prices close to the support level this fall and prices will be well above a year earlier. Wholesale cheese prices have already strengthened slightly.

This summer's net income position for dairymen probably had improved to the point of being about the same as the favorable conditions of a year ago. Higher milk prices and lower feed prices point to higher dairy incomes than a year earlier in coming months, particularly for producers who purchase most of their feed.

Prices of milk and dairy products in the grocery store probably will rise at a modest seasonal rate in coming months. However, retail prices for all of 1977 are likely to average only 3-4 percent above 1976.

While supplies of milk available for manufacturing continued heavy in June-July, they were up less than 2 percent from a year earlier, much less than the 5-6 percent rises of earlier this year. Butter output jumped as cheese and other products used less milk than in 1976.

Commercial use of milk and dairy products may be recovering this summer after a weak second quarter. Commercial use may continue to improve in view of prospects for relatively stable retail prices and further gains in consumer income, but a sharp pickup is not expected.

Although commercial stocks of milkfat and solids-not-fat on August 1 were only a little larger than a year ago, they both were very large in light of the prospective heavy milk output. Holdings of American cheese and nonfat dry milk were the heaviest.

USDA purchased the equivalent of 1.1 billion pounds of milk under the price support program in July-August to bring the total to almost 6 billion pounds milk equivalent since the start of 1977. This total already exceeds any calendar year figure since 1971 and some further purchases are likely during the rest of the year. By September 1, CCC uncommitted inventories had grown to 169 million pounds of butter, 83 million pounds of cheese, and 617 million pounds of nonfat dry milk. These holdings of cheese represented at least a year's donation usage at currently budgeted rates and of butter and nonfat dry milk substantially more.

Total imports of dairy products in June-July were about the same as last year as larger cheese imports offset declines in imports of other products. Casein imports continued to run sharply higher. No substantial improvement in world dairy surpluses is expected, although strong European cheese demand is helping to limit their milk surpluses.

YOU'RE INVITED

Don't miss the U.S. Department of Agriculture's Food and Agricultural Outlook Conference, November 14-17, in Washington, D.C.

You're invited to attend and actively participate in this year's proceedings which have been restructured to allow more time for questions and answers. So be there and join in when we preview the 1978 outlook for agriculture with leading authorities who will help you size up next year's uncertainties.

You'll benefit from the latest thinking in outlook sessions on the U.S. agricultural and general economies, world trade, weather, retail food supplies and prices, implications of new farm and food policy, farm inputs, food marketing and distribution, and the major farm commodities. This year, there will also be sessions on how outlook information is derived, and on natural resources and the environment.

The outlook session for dairy is scheduled for the afternoon of Wednesday, November 16. For a complete schedule of the Conference, call (202) 447-7255 or write: U.S. Department of Agriculture, ERS-Division of Information, Room 0054, South building, Washington, D.C. 20250.

DAIRY SITUATION

SITUATION AND OUTLOOK

PRODUCTION

Summer Milk Output Largest in 13 Years

Improved milk-feed relationships and continued restraint in culling kept milk production expanding this summer. August's 3-percent rise from a year ago was the 23rd straight month of increases from a year earlier. Before it is over, the current expansion may well be the longest continuous one on record.

Gains in output per cow have been fueled by increased feeding of concentrates as feed prices have declined. However, the rate of year-to-year increase in production per cow has remained fairly constant, as this year's month-to-month pattern was about the same as what happened in 1976. Milk per cow in July-August was up about 10 percent from 1975.

U.S. milk production

Month	1976	1977	Change
	Million pounds		*Percent*
January	9,607	9,910	+3.2
February	9,308	9,351	[1] +4.1
March	10,302	10,562	+2.5
April	10,480	10,741	+2.5
May	11,108	11,295	+1.7
June	10,816	11,103	+2.7
July	10,453	10,715	+2.5
August	10,112	10,410	+2.9
September	9,616		
October	9,643		
November	9,233		
December	9,678		
Total	120,356		

[1] On a daily average basis.

The combination of generally higher milk prices, prospects for quite moderate feed prices, and moderate slaughter cow prices has continued to limit herd culling this summer. In fact, cow numbers increased by 10,000 head during June-August. The year-to-year decline in milk cow numbers has been less than 1 percent since the spring of 1976. The gradual improvement in off-farm employment has not resulted in an accelerated decline in the cow herd.

The July 1 inventory of cattle on farms showed more than 4 million dairy replacement heifers (500 pounds and over), up 2 percent from both 1975 and 1976. In recent years, the relatively high ratio of replacements to milk cows (36.5 per 100 cows on July 1, 1977) has been an important factor in slowing declines in milk cow numbers.

Milk cows and replacements, 1974-77

Date	Milk cows	Replacement heifers, 500 pounds and over	
		Number	Per 100 cows
	1,000		*Number*
1974			
January 1	11,286	3,942	34.9
July 1	11,203	3,900	34.8
1975			
January 1	11,211	4,095	36.5
July 1	11,142	3,932	35.3
1976			
January 1	11,087	3,973	35.8
July 1	11,045	3,945	35.7
1977			
January 1	11,031	3,906	35.4
July 1	10,979	4,011	36.5

During July-August, output gains of 3-4 percent from 1976 were registered in the Pacific, Lake States, Northeast, and Appalachian regions. Small increases were posted in all other regions. Milk output maintained sharp gains in the 5 major dairy States; all of which had 2-4 percent rises.

Production To Be Heavy Through Mid-1978

The current momentum and the generally favorable prospects for milk producers point toward continued expansion in milk output through at least next year's flush season. Although variations in a great number of factors will affect the rate of increase, a dramatic change in prospects would probably be necessary to trigger a downward trend in milk output before then.

The major upward influence on milk production probably will come from strong gains in output per cow. The projected record corn and soybean crops hold forth the promise of fairly stable, relatively low feed prices. Even though milk prices probably will remain close to support level, the resulting milk-feed price relationships likely will favor

increased concentrate feeding. Combined with much-improved hay supplies in the Upper Midwest, the heavier feeding probably will lead to sustained growth in output per cow in coming months.

The declines in milk cow numbers are not likely to sharpen substantially. The generally favorable conditions for milk production likely will offset the stimulating effects on culling of expected higher cull cow prices and improving off-farm opportunities. The very large number of replacement heifers which will enter the milking herd by mid-1978 will also cushion the decline in milk cow numbers.

The rate of increase in milk production will be influenced by feed and other costs, cull cow prices, and employment alternatives. Some strengthening in output seems very likely during the rest of 1977. The year-to-year increases probably will not accelerate substantially however, since output was expanding rapidly during the second half of 1976. For all of 1977, milk production is now expected to total about 123 billion pounds, up over 7 billion pounds in a 2 year period. Further substantial gains are anticipated during the first half of 1978.

Feed Prices Modest

Feed prices have declined in recent months under pressure from the large supplies anticipated when this year's crops are harvested. The 1977 corn crop was forecast at over 6.2 billion bushels on September 1, up slightly from the previous record in 1976. In addition, a record soybean crop of 1.64 billion bushels is expected to be harvested. If these crops materialize, corn prices will continue to be quite moderate and soybean meal prices will average well below the crop year just ended.

Farmers paid an average $132 per ton for 16-percent dairy ration in August, down $20 from May and $13 from a year ago. These substantial drops did not fully reflect the declines in ingredient cost and mixed-feed prices may trend lower in coming months.

The milk-feed price ratio jumped to almost 1.7 in August, up from 1.5 a year earlier (figure 7). Similarly, the difference in value between 100 pounds of milk and 100 pounds of concentrate ration was $3.93, compared with $3.23 during August 1976. Since all of the improvement came from lower feed prices, the rise in returns over concentrate costs was not nearly as great as indicated by these figures, but feeding relationships had improved substantially from a year earlier.

Forage conditions have been quite mixed, even within regions. Generally, pasture conditions on September 1 were much improved from a year ago in the Midwest but poorer in the Northeast and Southeast. The projected hay crops as of August 1 reflected much the same pattern. Nationally, the total hay crop was expected to be up 3 percent, with alfalfa output up a tenth.

Even with the larger crop, alfalfa hay prices remained strong. Farmers paid an average $70 per ton in August, down barely from last year but well above 1975.

Milk-feed price ratio[1]

Month	1975	1976	1977
	Pounds		
January	1.25	1.65	1.52
February	1.30	1.58	1.48
March	1.33	1.58	1.47
April	1.31	1.53	1.46
May	1.30	1.49	1.43
June	1.30	1.43	1.49
July	1.34	1.44	1.57
August	1.36	1.50	1.68
September	1.48	1.51	
October	1.56	1.56	
November	1.66	1.60	
December	1.70	1.55	
Average	1.40	1.53	

[1] Pounds of concentrate ration equal in value to 1 pound of milk.

PRICES AND INCOME

Farm Milk Prices Recovering

Farm milk prices this summer have recovered slightly from the onslaught of heavy flush season supplies. Manufacturing grade milk prices reached $8.64 per 100 pounds in August, up 9 cents from June but 25 cents below the August 1976 peak. This was still about 20 cents below the support level, when adjusted to the annual average fat test.

Farm milk prices have reflected the slow seasonal easing of the very heavy supplies of milk for manufacturing and a lessening of disruption of normal marketing channels. Manufacturing milk prices may reach support levels soon as competition for milk supplies intensifies seasonally and cheese yields rise. However, any substantial rise above support level is unlikely, since the strong output and heavy commercial stocks probably could easily absorb even a brisk pick-up in sales.

Farmers received an average $9.67 per 100 pounds of milk in August, up 33 cents from May but slightly below a year earlier. The average price of all milk will again move well above year-earlier levels, where it will stay through early 1978. For all of 1977, farm milk prices likely will average only slightly above 1976, due to the low prices of early 1977. Next year, however, farm milk prices will average considerably above 1977 because of the higher average support price.

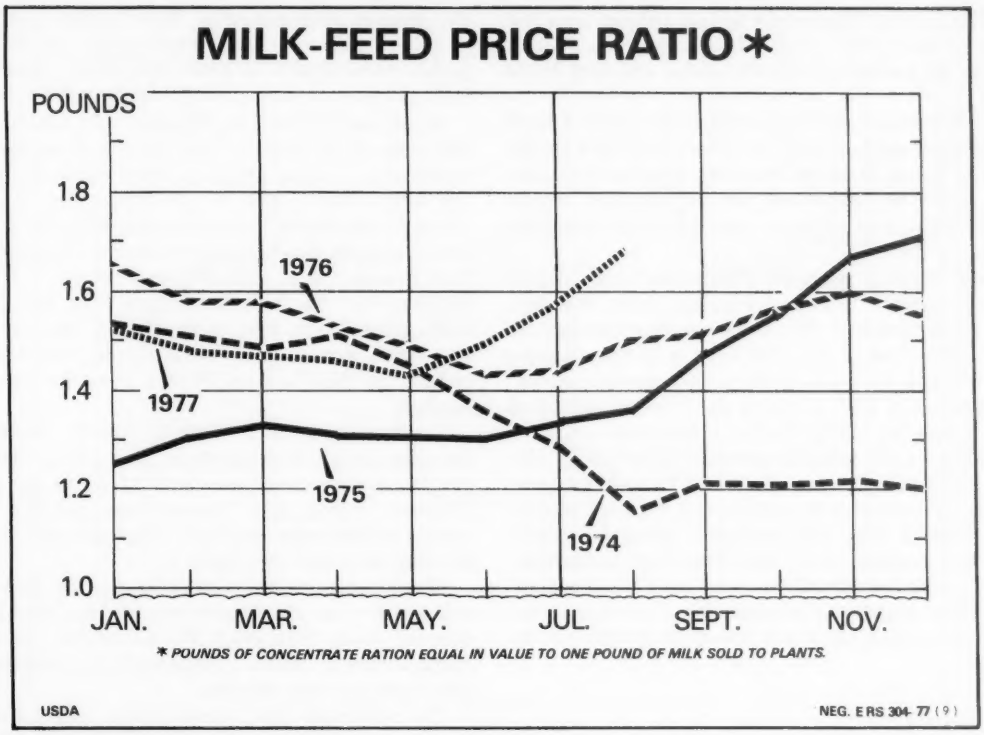


Figure 7

Milk prices received by farmers

Month	All sold to plants			Manufacturing grade		
	1975	1976	1977	1975	1976	1977
	Dollars per 100 pounds					
January	8.43	10.10	9.65	6.97	9.04	8.48
February	8.38	9.76	9.54	7.02	8.42	8.41
March	8.22	9.75	9.43	7.03	8.49	8.46
April	8.18	9.40	9.43	7.06	8.45	8.66
May	8.07	9.25	9.34	7.07	8.33	8.60
June	7.99	9.14	9.38	7.09	8.32	8.55
July	8.25	9.43	9.50	7.27	8.62	8.58
August	8.64	9.70	9.67	7.63	8.89	8.64
September	9.25	9.84		8.25	8.65	
October	9.70	9.96		8.77	8.54	
November	10.00	9.89		9.01	8.54	
December	10.30	9.72		9.30	8.53	
Average	8.75	9.66		7.63	8.56	

American cheese and butter-powder operations paid about the same for milk of equivalent fat test in July, after USDA action to raise barrel cheese prices eliminated the June advantage to butter-powder plants. No significant advantage to either type of operation is expected in coming months.

Minimum Class I prices in Federal Order markets will average $10.74 per 100 pounds in October, down 34 cents from last fall's peak and up only 4 cents from June. The Minnesota-Wisconsin price (the basic mover of Class I prices in Federal Order Markets) has been fairly stable this summer in contrast to last year's sharp jumps.

Class I prices negotiated by cooperatives (which may include charges for services rendered) were stable in June and July and averaged around 30 cents above the likewise stable Federal order minimum Class I prices. In the past month, however, a few cooperatives increased their negotiated prices somewhat which resulted in a slight increase in the average over-order payment to around 35 cents in August. With other cooperatives having announced their intention to increase their negotiated prices during September, the average payment above Federal order minimums can be expected to increase slightly during the month, but should still be below the 40-45 cent level of the first half of the year.

Minimum Support of 80 Percent Required by Farm Bill

The Food and Agriculture Act of 1977 (passed by both houses of Congress) would set a minimum support level of 80 percent of parity through

March 31, 1979. This would temporarily narrow the range of allowable support levels from the 75 percent to 90 percent of parity under existing legislation.

The bill would also require that the support level be adjusted semiannually to reflect changes in the Index of Prices Paid by Farmers. Quarterly adjustment would be authorized but not required. These adjustment provisions would extend through March 31, 1981.

These support program provisions likely would forestall rapidly bringing supplies back into balance with demand. While the minimum support levels specified in the bill very well may not be high enough to lead to chronic large surpluses, they probably will prolong the current period of heavy surpluses, unless feed or other costs spurt.

Among other provisions affecting dairy, the authorizations for transfer of CCC stocks to the military or veteran's hospitals and for the Federal Order Class I base and seasonal incentive plans would be extended for 4 years. The dairy indemnity program was broadened to cover milk lost because of chemical residues and radiation as well as pesticide contamination where the farmer was not to blame.

Cash Receipts Up

Cash receipts from dairying during July-August were up about 3 percent from a year earlier, mostly on the basis of larger marketings. Meanwhile, the index of prices paid for production items rose only about 2 percent from 1976. This probably left dairymen's net income about the same as last year's relatively favorable level.

Later this year, gross dairy income will post substantial gains, on the basis of both higher milk prices and larger marketings. With relatively small increases expected in prices of production items, net incomes to dairy enterprises likely will be more favorable than a year ago. However, with much of the improvement due to lower feed costs, dairymen who produce their own feed grains will not benefit nearly as much as those purchasing feed.

Seasonal Strength in Wholesale Prices to Be Missing

Relatively strong expected milk production and large commercial dairy stocks probably will thwart normal pressures for autumn seasonal rises in wholesale dairy prices. Even if sales recover in coming months, any price increases likely would be small and of short duration.

Grade A butter in Chicago remained close to the support purchase price in mid-September (figure 8). For 40-pound blocks of American cheese at Wisconsin assembly points, prices were slightly above the support purchase price. After rising in July and slightly further in early September, barrel cheese prices were almost 94 cents per pound. Nonfat dry milk prices were at support level in mid-September.

Continued growth in demand and output about the same to somewhat less than a year ago have combined to boost prices of whey products. Edible dry whey was quoted in mid-September at almost 15 cents per pound in the Central States production area, almost double a year earlier. Drying whey has become a profitable operation for many plants—for the first time since 1974. Dry buttermilk prices have also strengthened slightly since the flush season and were almost 62 cents per pound in the Central States area by mid-September.

Lactose prices have firmed slightly as demand for whey has limited lactose production. Prices in mid-September averaged about 21 cents per pound (Eastern area), up 2 cents from mid-May. The casein market remains firm, although spot trading activity has been very light.

Manufacturers' average selling price for evaporated milk was $14.08 per case in July, up about 2 percent from last year. Prices of ice cream in August were up about 5 percent from a year earlier and 4 percent from March.

The wholesale dairy price index, as reported by the Bureau of Labor Statistics (BLS) was 175.3 in August, up just slightly from last year's August peak and from last April. Coming months probably will see this index fairly stable.

Retail Prices At Plateau

Retail prices of milk and dairy products leveled off in early summer. The BLS index stood at 174.1 (1967=100) in July, up just barely from May and less than 4 percent above a year earlier. Meanwhile, retail prices of all food were 7 percent higher than a year ago.

Among the reported manufactured dairy products, all of them showed slight increases during May-July, as the adjustment to the higher support

Retail dairy product prices

Item	Unit	July 1976	Oct. 1976	Mar. 1977	July 1977
All dairy products	1967=100	168.0	172.7	171.2	174.1
Butter	c/lb.	125.9	131.0	127.4	134.9
Processed American cheese	c/½-lb.	85.8	88.2	84.3	86.2
Ice cream	c/½-gal.	125.2	130.2	131.2	137.6
Whole milk: At stores	c/½-gal.	81.9	84.3	83.5	83.4
Evaporated milk	c/can	34.3	34.7	35.2	36.7
Skim milk: At stores	c/qt.	44.5	45.5	45.6	45.8

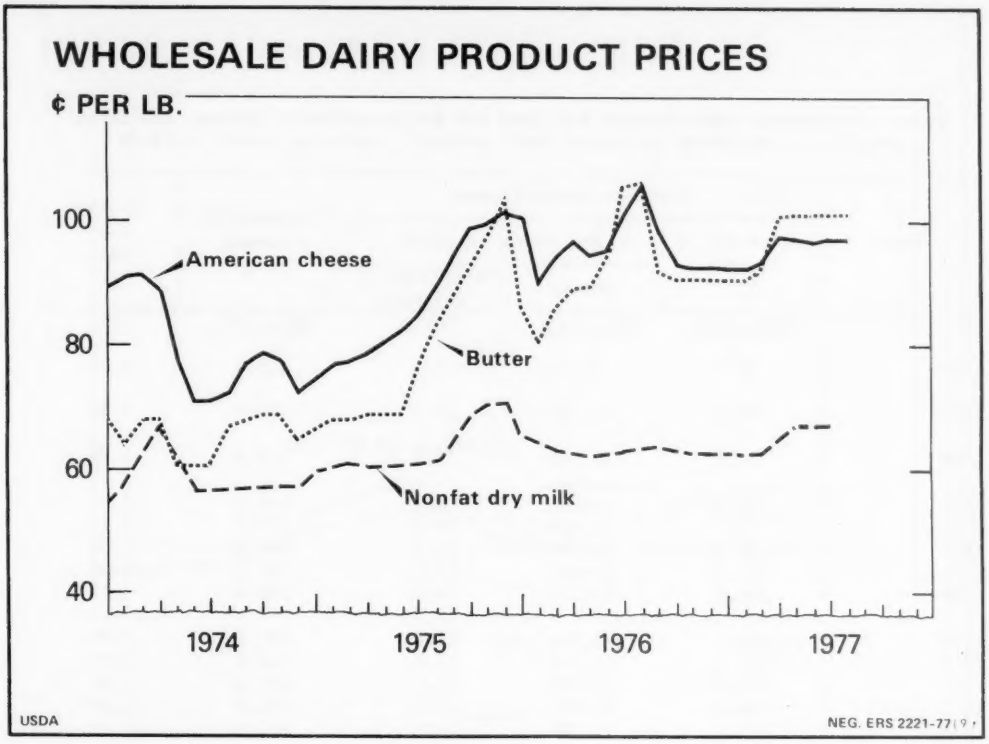


Figure 8

prices was completed. Butter and ice cream prices had the largest increases from a year earlier.

Retail fluid milk prices in July were actually a little lower than during most of the first half of 1977 (figure 9). Since Class I prices averaged higher than earlier this year, this stability at retail was because of slipping farm-retail price spreads.

Prices of milk and dairy products in the grocery store probably will rise slightly in coming months. However, these seasonal increases likely will be modest and the year-to-year rises probably will remain moderate. Retail dairy prices for all of 1977 are expected to average 3-4 percent above 1976.

Consumer Expenditures for Dairy Products Up in 1976

Consumers spent nearly $26 billion for dairy products last year, up more than 13 percent from 1975 (table 1). Most of the increase was because of higher retail prices but a significant rise in quantity and a slightly higher proportion consumed away from home also contributed. The 2 latter factors were responsible for a slight increase in the percentage of income spent for dairy, since income rose slightly faster than did retail dairy prices. Dairy's share of the total food dollar also rose somewhat from 1975.

It took the average wage earner an extra minute per week in 1976 to earn the dairy products in the market basket of farm foods. Last year's 74 minutes was down 4 minutes from 1974 but still above 1972 and 1973 (figure 10).

Dairymen received about $11.3 billion of the consumers' $25.7 billion last year, a larger share of the consumer's dollar than the year before. Total consumer expenditures for dairy products in 1976 consisted of $12.1 billion spent for fluid milk and cream and $13.6 billion for manufactured products.

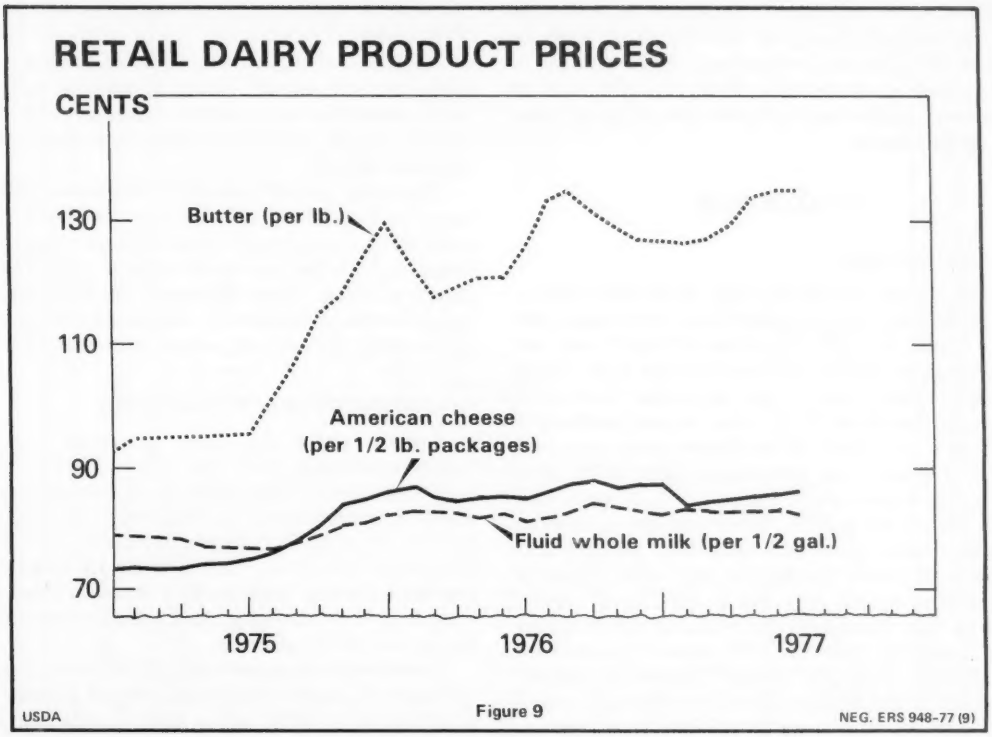
Item	Consumer expenditures for dairy products	
	1975	1976
	Billion dollars	
At-home	16.6	18.2
Away-from-home	6.1	7.5
Public eating places	4.3	5.4
Institutions	1.8	2.1
Total	22.7	25.7

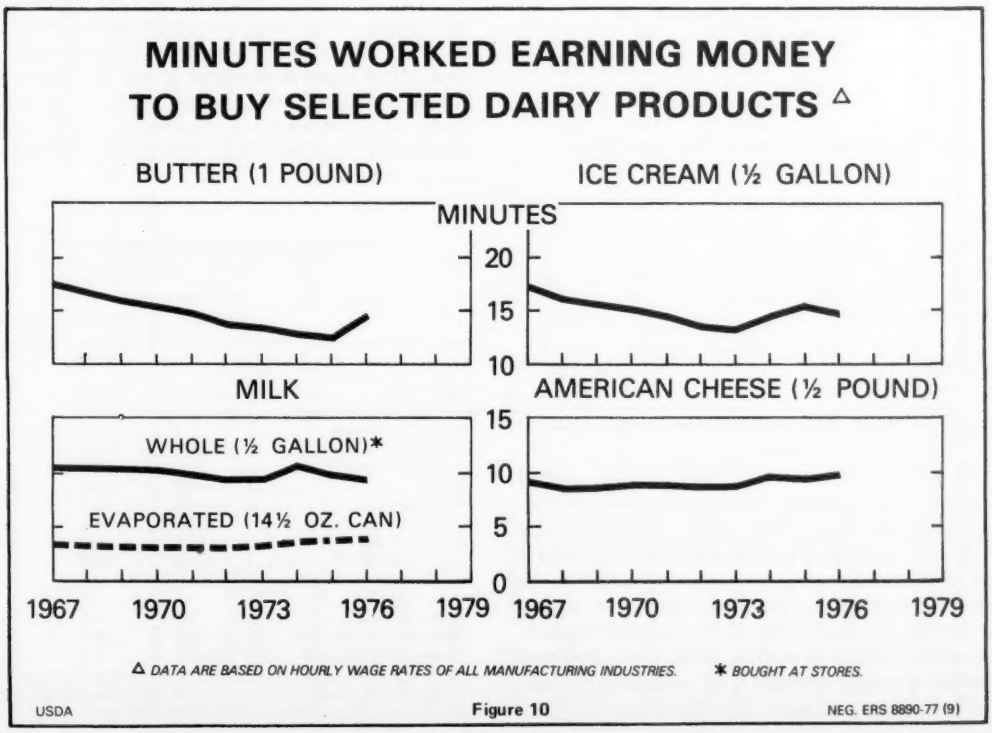
Table 1--Consumer expenditures for food and dairy products, income, and labor required to purchase specified dairy products, selected years, 1950-76

Year	Consumer expenditures			Disposable personal income	Hourly wage rate 2/
	For all foods 1/	For dairy products			
		Amount	Percentage of all food		
	Bil. dol.	Mil. dol.	Pct.	Bil. dol.	Dol.
1950	46.0	8,157	17.7	205.4	1.44
1955	58.1	10,301	17.7	273.3	1.86
1960	70.5	12,098	17.2	349.4	2.26
1965	85.8	13,049	15.2	472.2	2.61
1966	92.6	13,606	14.7	510.4	2.72
1967	95.0	14,100	14.8	544.5	2.83
1968	102.7	14,882	14.5	588.1	3.01
1969	109.5	15,460	14.1	630.4	3.19
1970	118.6	16,106	13.6	685.9	3.36
1971	122.0	16,698	13.7	742.8	3.57
1972	130.6	17,663	13.5	801.3	3.81
1973	146.8	18,919	12.9	901.7	4.08
1974	166.4	21,285	12.8	984.6	4.41
1975	184.8	22,706	12.3	1,084.4	4.81
1976 3/	199.5	25,693	12.9	1,185.8	5.19

	Time worked to earn money to purchase 4/				
	Butter, 1-lb.	Milk at stores, ½-gal.	American cheese, ½-lb.	Ice cream, ½-gal.	Evaporated milk, 14½-oz. can
	Minutes				
1950	29.6	15.8	11.7	5/35.6	5.1
1955	22.5	13.8	10.2	26.6	4.3
1960	19.5	12.8	9.0	22.2	4.1
1965	17.3	10.9	8.7	18.1	3.5
1966	17.9	11.0	9.2	17.5	3.5
1967	17.6	10.9	9.2	17.2	3.6
1968	16.7	10.7	8.8	16.1	3.4
1969	15.9	10.4	8.8	15.3	3.3
1970	15.5	10.2	9.0	15.1	3.3
1971	14.8	9.9	8.9	14.4	3.3
1972	13.7	9.4	8.6	13.5	3.1
1973	13.5	9.6	8.9	13.4	3.3
1974	12.9	10.7	9.9	14.6	3.9
1975	12.8	9.8	9.6	15.2	3.8
1976 3/	14.6	9.6	10.0	14.7	4.0

1/ Excludes alcoholic beverages, food donated by the Government, non-personal spending for food, and institutional food use. 2/ Average of all manufacturing industries. 3/ Preliminary. 4/ Based on hourly wage rates of all manufacturing industries. 5/ 1951.


RETAIL DAIRY PRODUCT PRICES
CENTS
130
110
90
70
Butter (per lb.)
American cheese
(per 1/2 lb. packages)
Fluid whole milk (per 1/2 gal.)
1975
1976
1977
USDA
Figure 9
NEG. ERS 948-77 (9)


MINUTES WORKED EARNING MONEY
TO BUY SELECTED DAIRY PRODUCTS △
BUTTER (1 POUND)
ICE CREAM (½ GALLON)
MINUTES
20
15
10
MILK
AMERICAN CHEESE (½ POUND)
WHOLE (½ GALLON)*
EVAPORATED (14½ OZ. CAN)
15
10
5
0
1967
1970
1973
1976
1979
△ DATA ARE BASED ON HOURLY WAGE RATES OF ALL MANUFACTURING INDUSTRIES.
* BOUGHT AT STORES.
USDA
Figure 10
NEG. ERS 8890-77 (9)

Almost three-fourths of consumer expenditures for dairy products last year was for use at home, a proportion that has remained fairly steady in recent years. At-home expenditures in 1976 were up 10 percent while expenditures away from home were up 23 percent.

UTILIZATION

Butter Output Large

Large stocks of cheese and continued heavy milk production have resulted in a very large output of butter, as milk has been diverted into the production of butter and nonfat dry milk. After ranging between 9 and 15 percent higher than 1976 during the first half of the year, butter production in July was 18 percent above the previous year and was the highest July production since 1972. Preliminary estimates place August production about a fifth higher than 1976. The increases in nonfat dry milk output have generally been larger than the gains in butter production and were about a fourth higher than a year ago in July. Total cheese output in July was about 283 million pounds, down almost 5 percent from the 1976 record July production but still easily the second largest on record. Almost all of the decline from 1976 was the result of the 7-percent drop in output of American types.

Production of selected manufactured dairy products, 1976-77

Item	January-July		Change from year earlier	
	1976	1977[1]	1976	1977[1]
	Million pounds		*Percent*	
Butter	601.3	683.9	-7.8	+13.7
Cheese:				
American	1,261.4	1,291.2	+21.8	+2.4
Other	734.1	751.9	+10.8	+2.4
Cottage, creamed	526.4	528.9	+.8	+.5
Canned milk	593.1	519.0	+4.4	-12.5
Dry whole milk	51.6	43.9	+43.7	-14.9
Ice cream (Mil. gal.)	492.8	476.9	-1.3	-3.2
Milk equivalent[2]	39,121	40,848	+4.9	+4.4
Nonfat dry milk	609.9	711.3	-15.4	+16.6

[1] Preliminary. [2] Total all reported manufactured products.

About 2 percent more milk than a year earlier went into manufacturing in July, following a one-percent gain in June. This was a sharp slowing from the 5-6 percent gains during the first 5 months of the year.

Frozen dessert output continued to run less than a year earlier in July, with only ice milk production exceeding the year-earlier level. Less creamed and lowfat cottage cheese was produced in July than a year ago, although the January-July production of both products was about the same as 1976 levels.

Supplies of milk available for manufacturing probably will remain heavy in coming months as milk production is expected to remain above year-earlier levels and fluid sales are not likely to increase sharply.

Wisconsin out-of-State milk shipments this summer fluctuated around year-earlier levels. While generally strong milk production in many other areas has limited the need to draw upon the large reserves of the Upper Midwest, the relatively tight supply-demand balance in the Southeast increased the demand for spot shipments into that region.

Commercial Use May Be Recovering

Sales of milk and dairy products may have begun recovering from the very sluggish rates of earlier this year. Total dairy sales during July were about 2 percent above 1976's strong level, following declines of around 3 percent during the first half of the year (table 2). The decline in total disappearance during January-July resulted from sharp drops in butter sales and stagnating sales of cheese and fluid products.

Commercial disappearance of butter in July was up nearly 6 percent, following second quarter sales which were a fifth below 1976 (table 3). Butter sales have been hampered by the wide difference in retail butter and margarine prices even though butter's competitiveness has improved slightly. Commercial disappearance of both American cheese and other-than-American types of cheese during June-July ran slightly below year-earlier levels, as lower meat prices have apparently offset improved consumer incomes and relatively stable retail cheese prices.

Changes in dairy sales from year earlier

Item	Change		
	Jan.-Mar.[1]	Apr.-May	Jun.-July
	Percent		
Total milk[2]	-3.0	-3.0	-1.0
Manufactured products:			
American cheese	+.7	-3.2	-1.0
Other cheese	+4.9	+3.5	-1.0
Cottage cheese[3]	+.7	+1.9	-1.3
Butter	-14.2	-13.3	-15.2
Ice cream	-3.5	-2.8	-3.2
Ice milk	+.8	+4.1	+2.9
Canned milk	-9.1	-6.2	-10.0
Nonfat dry milk	+10.3	-35.4	-24.3
Fluid products:	+.1	-.3	+ .8
Whole milk	-3.5	-3.6	-2.4
Skim and lowfat milk	+6.9	+6.1	+6.9
Cream and mixtures	-6.2	-2.5	N.A.

[1] On a daily average basis. [2] On a milk equivalent, fat-solids basis. [3] Creamed and low-fat. N.A.-Not available.

Table 2--Commercial disappearance: Total milk, annual and by quarters, 1975-77 1/

Item	1975	1976					1977 2/				
		By quarters				Annual	By quarters				Annual
		1st	2nd	3rd	4th		1st	2nd	3rd	4th	
	Billion pounds										
Production	115.3	29.2	32.4	30.2	28.6	120.4	29.8	33.1			
Farm use	3.2	.8	.8	.8	.8	3.1	.7	.7			
Marketings	112.1	28.4	31.6	29.4	27.8	117.3	29.1	32.4			
Beginning commercial stocks	5.6	3.7	4.2	6.5	6.7	3.7	5.3	5.5			
Imports	1.7	.4	.4	.4	.7	1.9	.5	.4			
Total supply	119.4	32.5	36.2	36.3	35.2	122.9	34.9	38.3			
Ending commercial stocks	3.7	4.2	6.5	6.7	5.3	5.3	5.5	7.1			
Net removals	2.0	4/	.1	.1	1.1	1.2	2.1	2.6			
Commercial disappearance											
Actual	113.6	28.3	29.6	29.6	28.8	116.4	27.2	28.6			
Percent change 3/	+.5 5/	+3.6	+5.8	+1.0	+2.0	+2.5 5/	-3.0	-3.4			

1/ Milk equivalent, fat solids basis. Totals may not add due to rounding. 2/ Preliminary. 3/ From year earlier using unrounded data. 4/ Less than 50 million pounds. 5/ On a daily average basis.

Table 3--Commercial disappearance: Selected dairy products, United States, annual 1968-76, by quarters, 1976-77

Year and quarter	Butter 1/	Cheese		Nonfat dry milk	Canned milk	Frozen products 3/
		American 2/	Other			
	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. gal.
1968	976.0	1,213.3	803.0	1,058.0	1,496.8	1,082.3
1969	921.9	1,281.0	861.6	1,042.1	1,376.1	1,092.2
1970	898.2	1,398.0	909.1	983.2	1,213.8	1,097.3
1971	847.1	1,454.8	987.0	981.8	1,186.9	1,102.4
1972	885.4	1,595.7	1,127.8	919.2	1,102.6	1,108.6
1973	855.6	1,677.1	1,210.2	1,110.1	1,056.7	1,118.6
1974	929.9	1,730.6	1,276.5	809.9	999.5	1,128.0
1975	951.0	1,717.1	1,331.9	697.0	923.9	1,183.9
1976	919.0	1,934.5	1,460.7	724.0	862.4	1,152.7
1976-1st	246.8	463.5	337.2	181.8	222.9	253.4
2nd	213.9	493.1	359.7	194.1	204.8	326.2
3rd	211.5	479.9	367.3	199.1	206.2	340.5
4th	246.7	498.1	396.4	149.0	228.5	232.7
1977-1st	209.5	461.4	350.0	198.2	200.7	246.8
2nd	169.4	481.8	367.3	133.7	179.8	323.1
3rd						
4th						
	1976-77 percent change					
	Percent					
1st 4/	-14.2	+.7	+4.9	+10.3	-9.1	-1.6
2nd	-20.9	-2.3	+2.1	-31.1	-12.2	-1.0
3rd						
4th						

1/ Imports include butter equivalent of butteroil. 2/ Imports include Colby cheese; stocks do not include processed cheese. 3/ Excludes Mellorine. 4/ On a daily average basis.

Table 4--Milk: Supply and utilization in all dairy products, United States, 1960-76 1/

Year	Supply					Utilization						
	Production	Imports	Beginning stocks		Total	Total use	Exports and shipments			Domestic disappearance		
			Commercial	Government			Commercial 2/	USDA 3/	Total	Fed to calves	Food use: Military	Food use: Civilian consumption
												Total / Per capita
	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb. / Lb.
1960	123,109	604	3,730	430	127,873	122,473	887	142	1,029	2,548	2,532	116,364 / 653
1961	125,707	760	4,192	1,208	131,867	121,964	784	148	932	2,432	2,472	116,128 / 641
1962	126,251	795	4,992	4,911	136,949	124,793	796	922	1,718	2,330	2,969	117,776 / 641
1963	125,202	915	4,338	7,818	138,273	128,585	2,122	3,371	5,493	2,245	2,964	117,883 / 632
1964	126,967	830	4,132	5,556	137,485	132,195	3,478	3,976	7,454	2,152	3,007	119,582 / 632
1965	124,180*	923	4,317	973	130,393	125,937	1,710	648	2,358	2,061	2,819	118,699 / 620
1966	119,912	2,791	3,918	538	127,159	122,300	907	301	1,208	1,980	2,376	116,736 / 604
1967	118,732	2,908	4,813	46	126,499	118,247	593	231	824	1,891	2,117	113,415 / 581
1968	117,225	1,780	4,258	3,994	127,257	120,550	814	957	1,771	1,821	3,295	113,663 / 577
1969	116,108	1,621	3,983	2,724	124,436	119,092	942	477	1,419	1,745	2,696	113,232 / 569
1970	116,962	1,874	3,798	1,447	124,081	118,278	949	41	990	1,696	2,419	113,173 / 561
1971	118,532	1,346	3,705	2,098	125,681	120,577	1,063	1,963	3,026	1,644	2,031	113,876 / 558
1972	119,904	1,694	3,565	1,539	126,702	121,204	1,263	884	2,147	1,641	1,671	115,745 / 560
1973	115,385	3,860	3,493	2,005	124,743	119,535	1,213	79	1,292	1,595	1,257	115,391 / 554
1974	115,553	2,923	4,732	476	123,684	117,798	1,133	25	1,158	1,554	1,137	113,949 / 543
1975	115,326	1,669	5,576	310	122,881	119,038	1,023	20	1,043	1,578	1,075	115,342 / 546
1976 4/	120,356	1,943	3,719	124	126,142	120,433	1,004	23	1,027	1,576	1,013	116,817 / 548

1/ Milk equivalent, fat solids basis. 2/ Includes sales for dollars and government-to-government sales. 3/ Includes P.L. 480 and AID programs. 4/ Preliminary.

Table 5--Dairy products: Per capita civilian consumption, United States, 1960-76 1/

Year	Fluid milk and cream 2/			Cheese			Evaporated and condensed			Frozen products					Dry milk products			
	Sales of fluid products	Total	Butter	Whole and part skim milk 3/: American	Whole and part skim milk 3/: Other	Cottage cheese	Canned, whole milk	Bulk condensed, whole milk	Skim and buttermilk	Ice cream	Ice milk	Sherbet	Other frozen dairy products	Mellorine	Dry whole milk	Nonfat dry milk	Dry butter milk	Dry whey 4/
	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
1960	307	322	7.5	5.4	2.9	4.8	11.3	2.4	4.5	18.3	4.5	1.5	0.2	1.2	0.3	6.2	0.4	0.3
1961	298	312	7.4	5.7	2.9	4.6	10.8	2.5	4.8	18.0	5.0	1.4	.1	1.3	.3	6.2	.4	.3
1962	296	308	7.3	6.1	3.1	4.6	10.3	2.2	4.8	17.9	5.6	1.4	.2	1.3	.3	6.1	.4	.4
1963	296	307	6.9	6.1	3.1	4.6	9.5	2.1	4.5	18.0	6.0	1.5	.2	1.3	.3	5.8	.4	.4
1964	294	304	6.9	6.2	3.2	4.7	9.2	2.2	4.8	18.3	6.3	1.5	.2	1.3	.3	5.9	.4	.5
1965	292	302	6.4	6.2	3.4	4.6	8.6	2.1	5.0	18.5	6.6	1.5	.2	1.3	.3	5.6	.4	.6
1966	288	297	5.7	6.2	3.6	4.6	7.9	1.9	5.4	18.2	6.8	1.6	.2	1.3	.3	5.9	.3	.7
1967	277	285	5.5	6.4	3.7	4.5	7.3	1.7	5.0	17.8	7.0	1.5	.2	1.3	.3	5.6	.3	.9
1968	272	280	5.7	6.6	4.0	4.6	7.1	1.8	4.8	18.4	7.2	1.6	.2	1.4	.2	5.8	.3	1.1
1969	264	272	5.4	6.7	4.2	4.8	6.4	1.5	5.0	18.0	7.6	1.7	.2	1.3	.2	5.8	.3	1.2
1970	258	264	5.3	7.1	4.4	5.2	5.9	1.2	5.0	17.7	7.8	1.6	.2	1.2	.2	5.4	.2	1.5
1971	253	259	5.1	7.4	4.7	5.4	5.7	1.1	5.1	17.5	7.8	1.6	.2	1.1	.2	5.3	.3	1.6
1972	257	263	4.9	7.8	5.4	5.4	5.1	1.2	4.8	17.4	7.7	1.6	.3	1.1	.1	4.6	.2	1.8
1973	251	257	4.8	8.0	5.7	5.3	4.9	1.1	4.3	17.5	7.7	1.7	.3	.9	.1	5.3	.2	1.8
1974	241	246	4.6	8.6	6.0	4.7	4.4	1.2	3.5	17.5	7.8	1.6	.3	.8	.1	4.2	.2	2.2
1975	240	245	4.8	8.3	6.2	4.7	3.9	1.4	3.6	18.7	7.8	1.5	.3	.7	.1	3.3	.2	2.3
1976 5/	240	245	4.4	9.2	6.8	4.8	3.6	1.5	3.7	18.1	7.4	1.5	.3	.5	.2	3.6	.2	2.5

1/ See table 15, DS-332, for earlier years. 2/ Milk equivalent, fat solids basis. 3/ Excludes cottage cheese. 4/ Includes modified dry whey products beginning 1975. 5/ Preliminary.

Fluid sales in major urban markets moved slightly above a year earlier in May and June before slipping back to about equal in July. This improvement in fluid sales occurred as retail fluid milk prices have been extremely stable thus far in 1977 and were up only about 2 percent from a year ago in June-July. This was only about a third of both the increase for all food prices and the rise in all consumer prices.

Among other products, commercial use of nonfat dry milk was still weak in June-July, although somewhat improved from the very weak sales of April-May. This slight recovery since early spring indicates that most of the user inventories built up prior to the rise in the support purchase price have now been utilized. Use of both creamed cottage cheese and lowfat cottage cheese slipped below year-earlier levels in June-July, following slight gains earlier in the year. Frozen dessert sales ran below last year's levels with only ice milk posting small gains.

Total commercial use probably will return to year-earlier levels during the remainder of the year. Fluid milk sales are likely to stay close or just slightly above a year earlier, while the generally higher butter prices probably will keep butter sales below last year. Cheese sales may strengthen slightly as incomes improve and meat prices increase slightly during the remainder of the year.

Commercial Holdings Burdensome

Commercial dairy stocks have reached burdensome levels—equivalent to 7.0 billion pounds of milk on August 1. While these holdings were up only slightly from last year, demand for stocks has been weakened by the combination of sluggish sales and prospective heavy milk output. Commercial stocks on August 1 totaled 245 million pounds of milkfat (up 2 percent from a year ago) and 326 million pounds of milk solids-not-fat (up 6½ percent from 1976).

Commercial interests held 484 million pounds of American cheese on August 1, up about a tenth from 1976 and within 4 million pounds of the 1974 record for that date. These stocks are fairly heavy in light of the recent weakness in sales and prospective supplies of milk for manufacturing.

Commercial butter holdings on August 1 were about a sixth below last year's level but were about twice the inadequate levels of two years ago. These stocks appear adequate in light of prospective sales and milk supplies.

Manufacturers' stocks of nonfat dry milk, at 129 million pounds on August 1, represented supplies for over 2 months—at the usage rate of recent months—and were up over 6 percent from last year.

Dairy product stocks

Item	August 1, 1975	August 1, 1976	August 1, 1977
	Million pounds		
Commercial:			
Butter	34.3	77.8	64.4
American cheese	407.0	441.2	483.9
Other cheese	64.2	67.1	77.1
Nonfat dry milk	91.9	121.0	128.8
Milkfat	189.7	240.1	244.8
Solids-not-fat	257.7	305.8	325.7
Milk equivalent	5,459	6,814	6,989
Government:			
Butter	63.5	5.2	140.8
American cheese	14.0	.7	38.8
Nonfat dry milk	397.4	377.8	490.7
Milkfat	55.6	4.4	125.9
Solids-not-fat	386.6	363.6	484.1
Milk equivalent	1,449	114	3,292

Support Purchases Stay Large

Continued heavy milk output and slow commercial use have resulted in large purchases of dairy products by the Commodity Credit Corporation (CCC) under the price support program thus far this year. During January-August, total net removals by CCC were equivalent to 5.8 billion pounds of milk (fat solids basis), at a purchase cost of approximately $709 million. This quantity compares with only about 150 million pounds purchased during the first 8 months of 1976 and 2.1 billion pounds 2 years ago.

USDA dairy purchases[1]

Item	January-August		
	1976	1977	Change
	Million pounds		*Percent*
Butter	.4	209.6	*
American cheese	10.9	148.4	*
Nonfat dry milk	101.5	357.2	+251.9
Evaporated milk	16.2	9.9	-38.9
Milk equivalent	150	5,815	*

[1] Delivery basis. *More than 1,000.

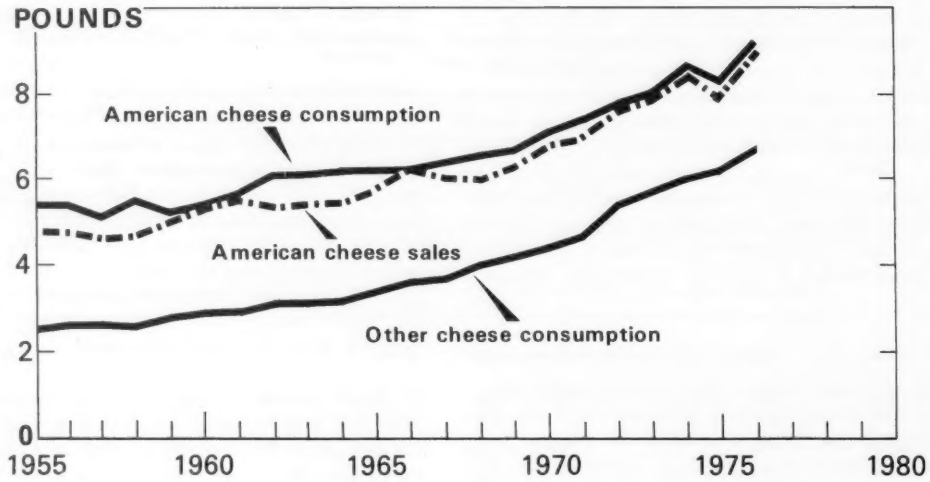
Inventories of CCC-owned dairy products which are not committed to a specific program or use (uncommitted inventories) continued to grow throughout the summer. On September 1, CCC uncommitted inventories of nonfat dry milk were a record 617 million pounds, up nearly a half from 1976. Uncommitted inventories also totaled 169 million pounds of butter and 83 million pounds of cheese, compared with no uncommitted inventories of either product at this time a year ago. Given the much reduced distribution outlets for these surplus dairy products, utilization of inventories of this magnitude may well prove very difficult.

Table 6--Sales and civilian consumption of American and other cheese, United States, selected years, 1950-76

Year	Sales 1/			USDA donations			Civilian consumption	Per capita	
	Civilian	Military	Total	Civilian	Military	Total		Commercial disappearance	Civilian consumption
	Million pounds							Pounds	
American cheese									
1950	798	11	809	25	---	25	823	5.4	5.5
1955	782	13	795	88	2	90	870	4.8	5.4
1960	938	7	945	27	1	28	965	5.3	5.4
1965	1,098	8	1,106	80	3	83	1,178	5.7	6.2
1966	1,195	11	1,206	5	---	5	1,200	6.2	6.2
1967	1,168	14	1,182	81	---	81	1,249	6.0	6.4
1968	1,191	13	1,204	105	4	109	1,296	6.0	6.6
1969	1,249	10	1,259	90	1	91	1,339	6.3	6.7
1970	1,385	8	1,393	46	---	46	1,431	6.8	7.1
1971	1,445	7	1,452	75	---	75	1,520	7.0	7.4
1972	1,568	5	1,573	46	---	46	1,614	7.6	7.8
1973	1,657	4	1,661	4	---	4	1,661	7.9	8.0
1974	1,768	3	1,771	43	---	43	1,811	8.4	8.6
1975	1,689	3	1,692	73	---	73	1,762	7.9	8.3
1976	1,926	4	1,930	25	---	25	1,951	9.0	9.2
Other cheese									
1950	332	1	333	---	---	---	332	2.2	2.2
1955	411	1	412	---	---	---	411	2.5	2.5
1960	524	1	525	---	---	---	524	2.9	2.9
1965	648	5	653	---	---	---	648	3.4	3.4
1966	689	7	696	---	---	---	689	3.6	3.6
1967	720	8	728	---	---	---	720	3.7	3.7
1968	787	7	794	---	---	---	787	4.0	4.0
1969	843	6	849	---	---	---	843	4.2	4.2
1970	886	6	892	---	---	---	886	4.4	4.4
1971	966	5	971	---	---	---	966	4.7	4.7
1972	1,105	5	1,110	---	---	---	1,105	5.3	5.4
1973	1,188	5	1,193	---	---	---	1,188	5.7	5.7
1974	1,260	7	1,267	---	---	---	1,260	6.0	6.0
1975	1,310	7	1,317	---	---	---	1,310	6.2	6.2
1976	1,440	3	1,443	---	---	---	1,440	6.7	6.8

1/ Domestic disappearance, commercial sources.

PER CAPITA CHEESE CONSUMPTION AND SALES

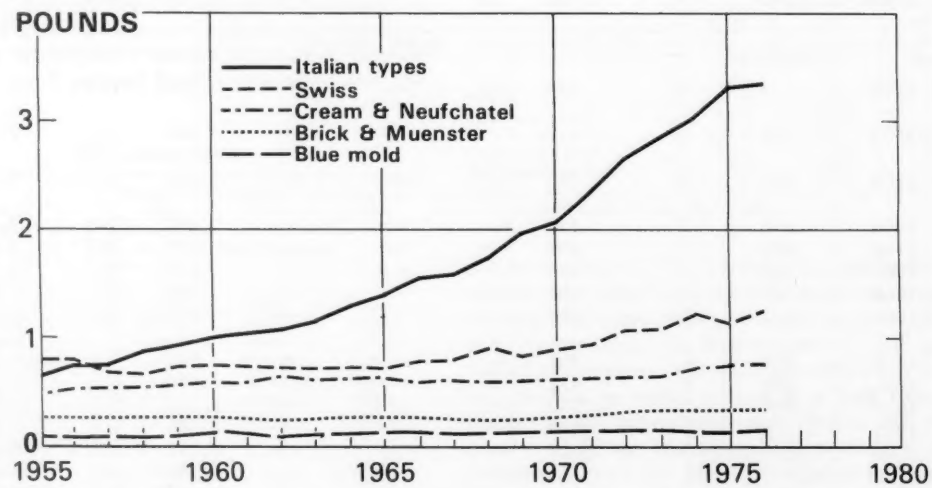


USDA

Figure 11

NEG. ERS 8371- 77 (9)

PER CAPITA CONSUMPTION OF OTHER CHEESE



USDA

Figure 12

NEG. ERS 8370- 77 (9)

Table 7 --Per capita consumption of selected cheese varieties, United States, selected years, 1950-76

Year	Swiss 1/	Italian-types 2/	Brick	Muenster	Cream and Neuf-chatel	Blue mold 3/	Edam and Gouda	Lim-burger	Roque-fort
					Pounds				
1950	0.70	0.54	0.20		0.46	0.08	0.04	0.04	0.01
1955	.81	.66	.16	.11	.49	.09	.05	.03	.01
1960	.76	1.00	.15	.13	.60	.11	.06	.02	.01
1961	.73	1.02	.13	.13	.60	.11	.07	.02	.01
1962	.74	1.08	.13	.13	.66	.10	.07	.02	.01
1963	.72	1.18	.13	.13	.62	.10	.07	.02	.01
1964	.74	1.30	.12	.15	.63	.11	.07	.02	.01
1965	.73	1.40	.12	.16	.64	.12	.07	.02	.01
1966	.80	1.53	.12	.15	.60	.13	.10	.02	.01
1967	.81	1.59	.11	.15	.62	.12	.10	.01	.01
1968	.93	1.74	.11	.15	.60	.12	.15	.01	.01
1969	.85	1.97	.10	.16	.62	.13	.10	.01	.01
1970	.90	2.09	.10	.17	.63	.14	.11	.01	.01
1971	.95	2.34	.11	.20	.64	.15	.10	.01	.01
1972	1.08	2.65	.11	.22	.65	.16	.11	.01	.01
1973	1.08	2.86	.11	.22	.67	.17	.12	.01	.01
1974	1.21	3.02	.11	.23	.72	.16	.11	.01	.01
1975	1.12	3.31	.09	.25	.76	.16	.11	.01	.01
1976	1.28	3.65	.09	.26	.79	.18	.11	.01	.01

1/ Includes imports of Gruyere and Emmenthaler. 2/ Includes imports of Romano, Pecorino, Reggiano, Parmesano, Provolone, and Provelette. 3/ Includes Gorgonzola.

Table 8--Consumption of Italian-type cheese, by variety, United States, selected years, 1964, 1972-76

Variety		Unit	1964	1972	1973	1974	1975	1976
Provolone:	Total	Mil. lb.	32.4	50.4	56.6	58.4	60.1	69.4
	Per capita	Lb.	.17	.24	.27	.28	.28	.33
Romano:	Total	Mil. lb.	29.4	35.5	32.7	32.3	48.2	36.7
	Per capita	Lb.	.16	.17	.16	.15	.23	.17
Parmesan:	Total	Mil. lb.	29.0	48.3	39.2	53.9	37.0	59.9
	Per capita	Lb.	.15	.23	.19	.26	.18	.28
Mozzarella:	Total	Mil. lb.	113.6	330.8	374.8	398.4	457.6	506.0
	Per capita	Lb.	.60	1.60	1.80	1.90	2.16	2.38
Ricotta:	Total	Mil. lb.	34.6	65.4	72.0	71.2	81.3	88.6
	Per capita	Lb.	.18	.32	.35	.34	.38	.42
Other:	Total	Mil. lb.	6.3	17.0	19.2	18.5	16.0	17.4
	Per capita	Lb.	.03	.08	.09	.09	.08	.08

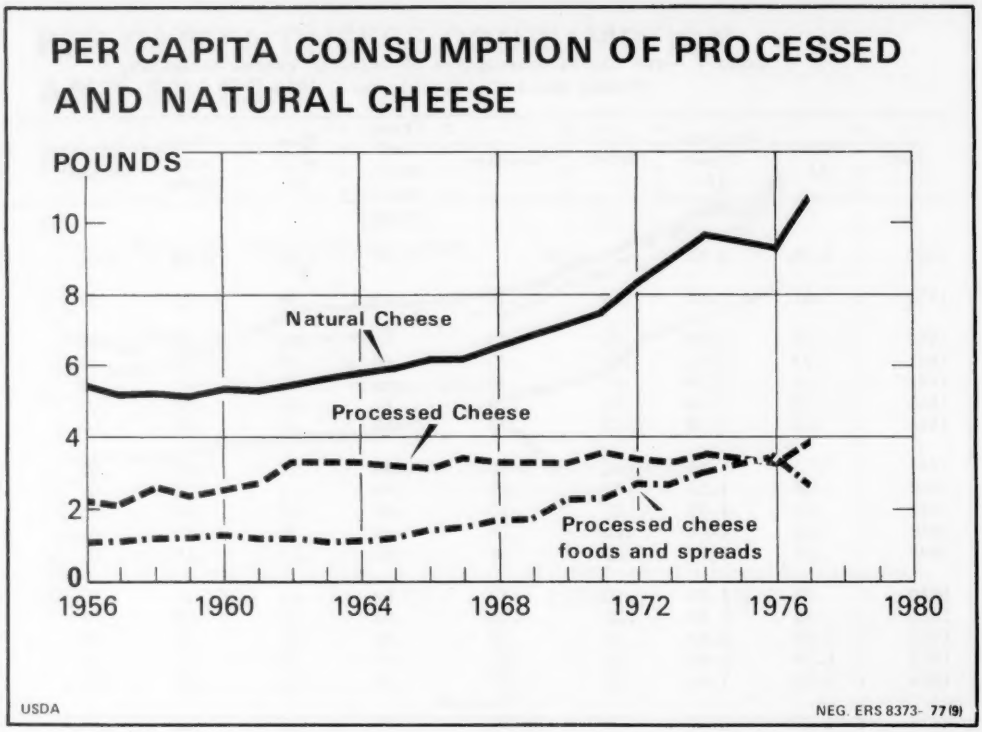


Figure 13

Table 9—Estimated per capita civilian consumption of processed and natural cheese, United States, selected years, 1956-76

Year	Processed	Processed foods and spreads[1]	Total processed and products[2]	Natural[3]	Total natural equivalent
			Pounds		
1956	2.2	1.1	3.3	5.4	8.0
1960	2.5	1.3	3.8	5.3	8.4
1965	3.2	1.2	4.4	5.9	9.5
1970	3.3	2.3	5.6	7.1	11.5
1971	3.6	2.3	5.9	7.5	12.1
1972	3.4	2.7	6.1	8.3	13.2
1973	3.3	2.7	6.1	8.9	13.7
1974	3.5	3.0	6.4	9.6	14.6
1975	3.3	3.4	6.7	9.3	14.5
1976	3.9	2.7	6.5	10.7	15.9

[1] Includes cold pack; excludes spreads from Neufchatel and cream cheese. [2] May not add due to rounding. [3] Consumed in this form.

Uncommitted CCC stocks

Item	August 31	
	1976	1977
	Million pounds	
Butter (bulk)	---	169.4
American cheese	---	82.7
Nonfat dry milk	420.2	616.6

Substantial government purchases of all three products will likely continue into fall, given the expected milk production and commercial use. Heavy purchases also are likely during the first half of next year if milk production increases as expected.

Sales of Most Cheese Types Rose in 1976

After a slight decline in 1975, commercial use of cheese in 1976 roared back with a 12-percent rise. The 14-percent increase in sales of American types and the 10-percent rise in use of other varieties lifted total commercial use to almost 3.4 billion pounds. Sales of cheese have grown by almost a half since 1970 (table 6 and figure 11).

Cheese sales posted fairly constant gains throughout 1976. Recovering consumer purchasing power undoubtedly provided much of the impetus. Generally moderate retail meat prices apparently did not hurt cheese use.

The average American ate 15.9 pounds of cheese last year, up almost 1½ pounds from 1975's relatively weak level. Over the past 2 decades, retail cheese prices have risen somewhat faster than prices of all foods or other dairy products. However, per person cheese use has almost doubled. This strong growth in demand (for the most part continuous) has been the result of rising incomes, as well as cheese benefiting from changes in lifestyles and eating habits. Such trends as greater interest in ethnic cooking, a growing away-from-home market for such items as pizza, cheeseburgers, etc., and fewer full meals probably have been important. Increased awareness of nutrition and greater knowledge of the diversity of cheese types and their uses (partially the result of promotion efforts) have also helped.

Per capita consumption of American cheese in 1976 rose almost a pound to 9.2 pounds. All of the increase was due to higher use of Cheddar as about the same amounts of other American types (Colby, Monterey, and other similar types) were used. Cheddar consumption has continued to grow and remains the most popular variety by far, but its proportion of total cheese consumption was only 44 percent last year—compared with over half in 1966.

Sales of Mozzarella, the variety probably most threatened by imitation cheese, continued to increase briskly. Consumption of other varieties of Italian cheese have matched the rises in Mozzarella use in recent years as consumers have discovered additional uses for them (table 8).

Estimated per capita civilian consumption of Cheddar and other American cheese, United States, 1950-76

Year	Cheddar	Other American[1]	Total American types
	Pounds		
1950	5.2	0.3	5.5
1955	4.9	.5	5.4
1960	4.8	.6	5.4
1965	5.3	.9	6.2
1966	5.0	1.2	6.2
1967	5.2	1.2	6.4
1968	5.4	1.2	6.6
1969	5.7	1.1	6.7
1970	5.9	1.2	7.1
1971	6.0	1.4	7.4
1972	6.1	1.7	7.8
1973	6.2	1.8	8.0
1974	6.4	2.2	8.6
1975	6.1	2.2	8.3
1976	7.0	2.2	9.2

[1] Colby, washed or stirred curd, high and low moisture jack, Monterey and granular.

Last year, per capita use of Swiss, Blue, and Cream and Neufchatel was considerably higher, while Muenster use was up slightly and consumption of other varieties was about the same (table 7 and figure 12).

The additional cheese that Americans ate last year was virtually all in natural forms (table 9 and figure 13). About the same amount of cheese was consumed in processed forms as an increase in use of processed cheese was offset by lower consumption of processed cheese foods and spreads. Most of the increase in cheese use in the past was also in natural forms, partially because of the limited number of varieties available in processed form.

FOREIGN DAIRY TRADE AND TRENDS

Imports Steady; Powder Exports Pick Up

During June-July, the milk equivalent total of all imports was down just slightly from a year-earlier, as higher cheese imports almost offset lower imports of other products. The relationship of domestic prices to world trading prices (many of them subsidized) continued to make the U.S. a fairly attractive market, despite the domestic surplus. Imports during the first 7 months of 1977

Table 10--Dairy products: U.S. imports, quota and non-quota, total 1976, and January-July, 1976-77 1/

Product	Calendar year quota	1976 imports	July			Cumulative, January-July		
			1976	1977	1977 as a % of 1976	1976	1977	1977 as a % of 1976
	Thou. lb.	Thou. lb.	Thou. lb.	Thou. lb.	Pct.	Thou. lb.	Thou. lb.	Pct.
Cheese, quota types								
American-Cheddar	10,037.5	7,984	21	492	3/	1,095	3,112	284
-Other	6,096.6	6,196	10	52	520	762	716	94
Italian-Original loaves	11,500.1	11,060	1,716	714	42	6,791	5,865	86
-Other	1,494.0	1,276	176	148	84	886	771	87
Edam and Gouda-Natural	9,200.4	8,524	567	516	91	4,001	3,779	94
-Processed	3,151.0	499	15	19	127	204	287	141
Blue Mold	5,017.0	4,593	352	143	41	1,898	1,870	99
Swiss-Emmenthaler, -$1.05 *	20,420.0	12,435	1,641	1,991	121	7,999	7,532	94
-Gruyere-process, -$1.05 *	11,242.0	8,690	761	1,183	155	3,275	3,611	110
Other-Over 0.5% fat, -$1.05 *	40,730.0	31,116	1,496	2,527	169	7,305	8,821	121
-Under 0.5% fat	8,901.0	4,741	171	1,368	800	2,178	2,744	126
Total	127,789.6	97,114	6,927	9,154	132	36,393	39,107	107
Cheese, non-quota types								
Swiss-Emmenthaler, $1.05 + *		48,499	4,046	3,528	87	24,333	24,528	101
-Gruyere-process, $1.05 + *		6,741	937	573	61	3,304	3,062	93
Other, $1.05 + *		34,405	2,386	2,222	93	16,831	18,366	109
Pecorino		16,728	1,043	1,079	103	9,254	10,217	110
Roquefort		1,560	152	141	93	857	986	115
Other 2/		2,053	363	245	67	1,074	1,482	138
Total		109,985	8,927	7,789	87	55,653	58,642	105
Other quota products								
Butter	707.0	528	39	17	44	303	409	135
Butteroil	1,200.0	1,200	---	---	---	1,200	1,200	100
Butterfat mixtures	2,580.0	2,468	488	---	---	1,893	2,393	126
Ice cream	3,377.3	373	---	---	---	---	3,187	---
Frozen cream	12,540.0	12,964	225	---	---	10,392	8,175	79
Nonfat dry milk	1,807.0	1,807	---	265	---	1,112	1,302	117
Dried buttermilk	496.0	444	---	---	---	137	179	131
Evaporated milk	1,312.0	28	---	---	---	1	2	200
Condensed milk	4,079.0	639	99	---	---	234	411	176
Chocolate crumb-Regular	17,000.0	9,246	465	159	34	3,338	2,477	74
-Lowfat	4,680.0	2,604	240	---	---	940	270	29
Animal feed with milk solids	16,300.0	12,226	2,060	653	32	7,105	8,330	117
Non-quota products								
Casein		112,141	8,315	15,555	187	55,436	83,959	151
Lactose		1,268	176	2	1	623	906	145
Milk equivalent, fat solids basis total all products	1,305,620	1,942,714	140,292	130,640	93	937,392	979,679	105

1/ Preliminary. 2/ Gjetost, Bryndza, Gammelost and Noekkelost, and Goya. 3/ More than 1,000.
*Price break effective May 5, 1977.

totaled almost 1.0 billion pounds milk equivalent, up 5 percent from a year ago (table 10).

The increase in the "pricebreak" level (effective for cheese shipped after May 5, 1977) may have brought significant quantities under the quotas as more cheese was imported subject to quota during June-July than a year ago, but less outside the established quotas. This was just the reverse of the pattern of January-May.

Only minor quantities of quota products other than cheese were imported during June-July. By July, the calendar year quotas for frozen cream and "ice cream" were close to being filled and a large proportion of the quotas for butter, butterfat mixtures, and nonfat dry milk had already come into this country.

Among nonquota products, casein imports continued to run sharply higher than a year ago. On the other hand, imports of lactose were down considerably.

Overall, imports during the rest of the year may well total about the same as 1976. With the expected stability in domestic cheese prices, the U.S. market is not likely to appear any more attractive than earlier this year and relatively little room remains under the quotas for other covered products.

U.S. dairy trade
(milk equivalent)

Year and quarters	Imports		Exports	Shipments[1]
	Cheese	Other		
	Million pounds			
1976				
1st	310	114	132	140
2nd	302	71	145	129
3rd	389	30	124	136
4th	682	44	101	114
Year[2]	1,683	259	502	520
1977				
1st	343	140	107	123
2nd	315	52	116	170
July	129	1	36	38

[1] To U.S. territories. [2] May not add due to rounding.

June-July exports of nonfat dry milk picked up from earlier this year but still totaled below a year earlier. In both years, the bulk of the powder exports were donations from government stocks to foreign outlets.

Commercial exports remained quite small and the June-July total (milk equivalent, fat solids basis) was less than a year ago. Thus far in 1977, less canned milk, dry whole milk, and butter was exported although cheese exports were somewhat larger. The expected continuation of surplus conditions in world markets leaves little hope of significant expansion in commercial exports since our prices are high relative to prices of Oceanic or subsidized European products.

Shipments of dairy products to U.S. Territories in June-July remained above year-earlier levels. During the first 7 months of 1977, smaller shipments of butter, American cheese, and dry whole milk were outweighed by larger movements of canned milk and other-than-American cheese.

EC Butter-Powder Output Lower

Butter and nonfat dry milk production in the EC was down from a year ago in late spring, in spite of slightly larger milk output. Strong domestic cheese demand pulled milk away from the price-supported products. (Cheese prices are directly supported only in Italy.) In addition, more milk went into dry whole milk and some countries diverted more skim milk into casein. However, this did not represent a significant easing of the EC surplus conditions. Intervention stocks of butter on July 1 were still high, although somewhat below a year earlier. Holdings of nonfat dry milk were in much the same position. Milk output this summer probably is running above the drought-reduced levels of a year ago and intervention stocks may well again exceed a year earlier by this fall.

Elsewhere in Western Europe, milk deliveries in late spring were slightly lower in Scandinavia and Switzerland but up a little in Austria. In these countries as well, cheese production was relatively stronger than butter output.

Canadian milk output in late spring was considerably closer to a year ago than earlier in 1977. By late spring of 1976, policy decisions had started to reduce milk output. Milk production in Oceania during May-June was seasonally very small.

Surpluses in most major producing countries and fairly low prices in international trade probably will continue into 1978. Even if corrective steps were taken immediately, it would require a considerable time period to work off accumulated holdings and no long-run solution is in sight.

Table 11--U.S. Dairy Situation at a Glance

Item	Unit or base period	1975	1976					1977		
		July	May	June	July	August	Year	June	July	August
Production and cow numbers:										
Total milk	Mil. lb.	9,969	11,108	10,816	10,453	10,112	120,356	11,103	10,715	10,410
Milk per cow	Lb.	896	1,006	979	947	916	10,893	1,013	977	949
Number of milk cows	Thou.	11,131	11,047	11,044	11,041	11,041	11,049	10,963	10,965	10,973
Prices received by farmers:										
All milk, sold to plants, 100 pounds	Dol.	8.25	9.25	9.14	9.43	9.70	9.66	9.38	9.50	9.67
Percentage of parity 1/	Pct.	77	80	81	82	83	80	78	78	78
Manufacturing grade milk, 100 pounds	Dol.	7.27	8.33	8.32	8.62	8.89	8.56	8.55	8.58	8.64
Parity equivalent	Dol.	9.47	10.08	10.25	10.25	10.25	10.18	11.01	11.01	10.93
Fat content	Pct.	3.53	3.58	3.52	3.50	3.53	3.65	3.52	3.50	3.54
Minnesota-Wisconsin (3.5% fat), 100 pounds	Dol.	7.35	8.30	8.32	8.71	8.99	8.48	8.60	8.65	8.64
Milk eligible for fluid market, 100 pounds	Dol.	8.51	9.49	9.36	9.64	9.91	9.93	9.60	9.73	9.91
Price ratios and dairy ration values:										
Milk-feed	Lb.	1.34	1.49	1.43	1.44	1.50	1.53	1.49	1.57	1.68
Manufacturing grade milk-hog	Lb.	.14	.18	.17	.18	.21	.20	.20	.19	.20
Manufacturing grade milk-beef cattle	Lb.	.21	.22	.23	.26	.27	.25	.25	.25	.25
Value of concentrate ration fed milk cows	Dol.	6.16	6.22	6.39	6.53	6.47	6.30	6.29	6.07	5.74
Farm cash receipts from dairy products	Mil. dol.	813	1,012	969	968	968	11,426	1,006	1,003	
Production of factory products:										
Butter	Mil. lb.	69.2	91.4	83.9	71.5	65.1	978.6	95.0	84.2	
American cheese, whole milk	Mil. lb.	150.1	207.8	209.7	189.4	178.2	2,062.4	200.3	176.2	
Cheese, other than American	Mil. lb.	99.1	107.7	115.7	107.2	106.7	1,274.1	113.8	106.4	
Canned milk, unskimmed	Mil. lb.	87.1	96.6	92.3	84.9	73.4	895.5	80.2	76.9	
Dry whole milk	Mil. lb.	5.3	9.1	8.0	6.3	6.5	78.1	5.6	4.3	
Frozen products 2/	Mil. gal.	129.7	103.0	122.0	121.4	115.5	1,152.7	120.8	118.9	
Creamed cottage cheese	Mil. lb.	76.6	76.4	78.2	75.9	74.4	874.6	77.6	74.8	
Total whole milk equivalent 3/	Mil. lb.	5,925	6,092	6,279	5,728	5,355	63,672	6,360	5,825	
Nonfat dry milk, human use	Mil. lb.	92.5	105.5	108.1	96.3	76.2	926.2	132.7	120.7	
Wholesale prices:										
Butter, Grade A, Chicago, pound	Ct.	76.6	89.9	95.0	105.8	106.2	92.0	100.7	100.7	100.7
Cheese, American (40-pound blocks), f.o.b. Wisconsin assembling points, pound	Ct.	84.8	94.9	95.5	100.1	106.2	96.3	97.4	97.1	97.1
Evaporated milk, case (mid-point of range)	Dol.	12.03	13.28	13.75	13.79	13.90	13.67	14.32	14.08	
Dry whole milk, pound	Ct.	67.5	77.9	78.1	79.6	83.7	79.4	80.7	80.9	
Nonfat dry milk, pound	Ct.	60.7	62.8	62.8	63.2	63.5	63.5	67.9	67.9	
Dairy products and ice cream index (BLS)	1967=100	153.2	167.1	167.0	170.0	173.9	168.4	174.3	175.1	175.3
Retail prices (BLS):										
Milk, fresh, grocery, half-gallon	Ct.	77.0	82.0	82.2	81.9	82.0	82.7	83.9	83.4	
Evaporated milk, 14½-ounce can	Ct.	30.4	34.1	34.2	34.3	34.3	34.3	36.4	36.7	
Cheese, American, processed, sliced, ½-pound package	Ct.	75.1	85.7	85.8	85.8	86.2	86.5	86.0	86.2	
Butter, pound	Ct.	95.7	120.6	121.1	125.9	133.2	126.1	134.9	134.9	
Ice cream, half-gallon	Ct.	121.3	125.3	126.7	125.2	126.3	127.1	137.0	137.6	
Dairy products index	1967=100	153.4	167.4	167.9	168.0	169.0	169.3	174.3	174.1	
All foods index	1967=100	178.6	179.9	180.9	182.1	182.4	180.8	193.6	194.6	
Margarine, colored, pound	Ct.	59.2	51.6	51.1	51.1	50.7	52.6	58.1	59.6	
Stocks, end of month:										
Butter	Mil. lb.	97.8	69.5	80.9	83.0	82.3	---	196.8	205.3	
Cheese, total 4/	Mil. lb.	485.1	436.1	483.7	509.0	518.1	---	587.6	599.8	
Canned milk, unskimmed	Mil. lb.	114.7	104.6	125.5	143.3	136.5	---	127.7	133.2	
Dry whole milk	Mil. lb.	6.7	10.7	10.8	11.8	11.9	---	10.0	9.4	
Total whole milk equivalent 5/	Mil. lb.	6,908	5,860	6,596	6,928	6,993	---	9,988	10,280	
Nonfat dry milk	Mil. lb.	489.3	463.8	481.9	498.8	507.4	---	579.2	619.5	
Commercial disappearance:										
Butter	Mil. lb.	72.7	66.5	72.8	70.0	64.0	919.0	47.1	74.0	
Cheese, American	Mil. lb.	142.0	164.8	163.9	160.3	168.9	1,934.5	163.0	158.1	
Cheese, other than American	Mil. lb.	113.1	118.8	125.2	120.8	122.5	1,460.7	124.6	119.0	
Canned milk, unskimmed	Mil. lb.	74.0	67.1	70.2	66.2	78.8	862.4	53.5	69.2	
Milk in all products	Mil. lb.	9,786	9,949	9,943	9,956	9,889	116,402	9,534	10,169	
Nonfat dry milk	Mil. lb.	74.5	67.5	60.3	70.2	68.4	724.0	47.3	51.5	
USDA net removals:										
Butter	Mil. lb.	2.3	---	---	---	---	39.4	35.1	16.0	13.5
Cheddar cheese	Mil. lb.	4.8	1.1	3.1	6.2	---	38.0	23.1	16.8	28.9
Nonfat dry milk	Mil. lb.	37.8	16.0	22.5	27.6	10.6	157.1	78.2	67.8	62.7
Evaporated milk	Mil. lb.	2.4	1.7	1.3	1.0	1.5	21.8	.6	2.2	2.7
Total whole milk equivalent	Mil. lb.	101	15	33	64	3	1,236	954	501	570
Fluid sales, change from year earlier: 6/										
Whole milk	Pct.	-.5	-2.3	-3.7	-2.7	-3.2	-2.8	-1.7	-3.0	
Low-fat and skim milk	Pct.	+8.1	+7.1	+5.8	+5.6	+6.5	+7.1	+7.4	+6.4	
Total fluid milk	Pct.	+2.2	+.7	-.7	+.2	-.1	+.2	+1.6	+.1	
Cream and cream mixtures	Pct.	+12.5	-3.2	-1.3	+1.4	+4.2	+2.5	-1.1	N.A.	

1/ Seasonally adjusted price as percentage of parity price.
2/ Ice cream, ice milk, and sherbet.
3/ Includes manufactured products for which current monthly series are available.
4/ Natural, plus process American cheese held by CCC.
5/ Excludes cream and bulk condensed milk.
6/ Daily average sales in Federal and State Marketing areas.

N.A. = Not available

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